



# Washington Oil Spill Compensation Schedule

## Credit for Oil Recovery

### From Ecology's Spill Prevention, Preparedness, and Response Program

If you spill oil into state waters, you can receive credit for any oil you recover, IF you follow these guidelines. The volume of oil you recover can directly and significantly affect the amount of the Resource Damage Assessment (RDA) claim made against you. Following these guidelines will make estimating the volume of oil recovered generally simple and cost effective, even for small spills.

- 1) Weighing is the easiest and least expensive method for determining the volume of oil recovered in absorbent material. Keep an accurate record of the size and number of each type of absorbent materials used because you must be able to determine how much the material weighed before it absorbed the oil. For recovery credit purposes, you do not need to extract the oil from the absorbent material by compression (squeezing) or washing.
- 2) Place oiled absorbent material in doubled plastic bags so the recovered oil does not leak out or evaporate. Keep absorbent material (pads, sweeps, booms, etc.) separate from other material (garbage, PPE, oiled debris, etc.).
- 3) Keep track of the length of time the absorbent materials are left in the water. This will help to estimate the amount of water absorbed.
- 4) Keep the water content as low as possible by allowing surface water to drain off absorbent material before placing it in the bags. Keep the bags closed as much as possible when working in the rain. Close lids on dumpsters to keep out rainwater.
- 5) In order to receive recovery credit, the oil must be recovered within 24 hours of the time oil first spills into state waters. Keep oil recovered within the first 24 hours separate from oil recovered after that time.
- 6) You cannot receive credit for oil recovered from areas other than water, such as soil, vegetation, road surfaces, ship decks, etc. Keep oil recovered from water separate from oil recovered from other areas.
- 7) Store primary and secondary recovery liquids separately. (See attached guidelines for definitions).
- 8) Do not collect or store recovered oil in tanks or vacuum trucks containing oil from other sources. Do not put oil from other sources into tanks or vacuum trucks containing recovered oil.
- 9) Oil collected in tanks or vacuum trucks must be allowed to physically separate from any water. The recovered oil volume must be derived using volumetric methods. You cannot use an estimate of the percent of oil in a tank or truck to derive recovery volume.

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## RDA COMMITTEE RESOLUTION 96-1.1

Adopted May 8, 1996 (Revised May 12, 2004)

**Intent:** The RDA Committee recognizes that early containment and recovery of oil from the environment directly reduces the expected natural resource injuries caused by a spill. In order to acknowledge this fact in the compensation schedule, the RDA Committee developed the following credit provision. The credit reflects the direct avoidance of persistence effects, and likely reduction in mechanical effects, of each gallon of oil **recovered from the water within 24 hours of the time oil first spills into state waters**. The credit also recognizes that the acute impacts of oil in the water column begin immediately and are not sufficiently avoided even by rapid recovery efforts to warrant reduction under the compensation schedule.

**Relationship to Other Resolutions:** This resolution supersedes Resolution 95-1.

**Credit Provision:** Formula A shown below shall be used in compensation schedule applications to provide credit for the volume of spilled oil recovered from the water by responders within 24 hours, for any incident which meets the following criteria:

- 1) Recovered oil is stored and measured in accordance with the attached guidance document, and recorded on the attached data sheet;
- 2) Oil spilled to water is contained and recovered inside primary containment and within 1,000 feet of either the spill source or the point where the oil first enters state waters (Primary Recovery Liquids).

*Formula A: Pursuant to the calculation of damages under WAC 173-183-830(3), WAC 173-183-840(2), WAC 173-183-850(2), and WAC 173-183-860(2), the mechanical injury and persistence components shall be multiplied by the difference between the spill-to-water volume and the total volume of oil recovered from the water by spill responders within 24 hours, such that:*

**$$\text{Damages}(\$) = \text{Scaling coefficient} * [(SVS_{at} * Oil_{at} * \text{Spill to water volume}) + (SVS_{mi} * Oil_{mi} * \{ \text{Spill to water volume} - \text{Total 24 hour recovery volume} \}) + (SVS_{per} * Oil_{per} * \{ \text{Spill to water volume} - \text{Total 24 hour recovery volume} \})]$$**

If criterion 1 above is met but criterion 2 is not, Formula B shall be used to provide credit for the volume of spilled oil contained and recovered inside primary containment (Primary Recovery Liquids), which is applied to the Mechanical Injury portion of the calculation. The volume of any other oil recovered from the water within 24 hours (Secondary Recovery Liquids) is added to the Primary Recovery Liquids volume and credit for the total volume recovered from the water is applied to the Persistence portion of the calculation.

*Formula B: Pursuant to the calculation of damages under WAC 173-183-830(3), WAC 173-183-840(2), WAC 173-183-850(2), and WAC 173-183-860(2), the mechanical injury component shall be multiplied by the difference between the spill to water volume and the Primary Recovery Liquids volume, and the persistence component shall be multiplied by the difference between the spill volume to water and the total volume of oil recovered by spill responders within 24 hours of the time oil first spills into state waters (Primary Recovery Liquids plus Secondary Recovery Liquids), such that:*

**$$\text{Damages}(\$) = \text{Scaling coefficient} * [(SVS_{at} * Oil_{at} * \text{Spill to water volume}) + (SVS_{mi} * Oil_{mi} * \{ \text{Spill to water volume} - \text{Primary Recovery Volume} \}) + (SVS_{per} * Oil_{per} * \{ \text{Spill to water volume} - \text{Total 24 hour recovery volume} \})]$$**

This provision applies to all compensation schedule applications which occur after the adoption date of this resolution. Criterion 1 does not apply to spills for which the preassessment screening occurred before the adoption date of this resolution.

# Washington Oil Spill Compensation Schedule Credit for Oil Recovery GUIDELINES

The following guidelines define how recovered oil must be handled, stored, and measured in order to receive credit under the Oil Spill Compensation Schedule. Given the scope of this credit, the guidelines focus on oil and oil-water mixtures recovered within 24 hours of the time oil first enters state waters. The state on-scene coordinator must confirm on the attached documentation form that these guidelines were met.

## 1. Definitions

- Primary recovery liquids: Oil and oil-water mixes recovered from the water inside the primary containment boom, and within 1,000 feet of either the spill source or the point where oil first spills into state waters, within 24 hours of the time oil first enters state waters.
- Secondary recovery liquids: Any other oil and oil-water mixes recovered from the water within 24 hours of the time oil first enters state waters.

## 2. General Guidelines

- The volume of primary recovery liquids and secondary recovery liquids shall be measured and recorded on the attached data form. Measurements must be reviewed and accepted by the state/federal OSC or their designee. Primary recovery liquids and secondary recovery liquids shall each be stored separately from each other and from all other materials collected during the spill response (such as oil recovered directly from the spill source) until such time that these measurements are completed.
- Primary and secondary recovery liquids should be stored in containers which have been verified as empty. If it is necessary to use a storage container which already contains water and/or petroleum products, the contents of that container must be identified and properly measured prior to the addition of primary or secondary recovery liquids.

## 3. Measurement Guidelines – Skimmers/Vacuum Trucks

- The volume of primary and secondary recovery liquids recovered by skimmers and vacuum trucks must be derived from volumetric methods rather than from estimates of removal performance.
- The percentage of oil contained in oil-water mixtures (including emulsions) recovered from the water shall not be measured until debris has been removed and the components have been allowed to physically separate.

## 4. Measurement Guidelines – Sorbents (boom, pads, etc.) and other oiled materials

- The volume of primary and secondary recovery liquids recovered from sorbents and other oiled materials must be derived from one of the following methods rather than from estimates of removal performance:
  1. **Volumetric:** Liquid shall be extracted from materials by compression or washing. The recovered oil-water mixture shall be measured as described above for skimmers/vacuum trucks.
  2. **Gravimetric:** Weighing of sorbents and other oiled materials shall take into account the pre-oiled weight of the material itself, any absorbed water, and accumulated debris. Density of the recovered oil shall be measured and used to convert the weight of the oil component into a volume.

Rather than measuring all applicable recovered sorbents and other oiled materials, representative sampling and statistical analysis may be used to estimate the volume of primary and secondary recovery liquids if that analysis meets the attached criteria.

# Sampling and statistical analysis of recovered sorbents and other oiled materials

Measurement of each and every sorbent recovered during the first 24 hours is often infeasible for larger spills. In such cases, measuring a representative sample of oiled materials is the most effective way to estimate the total recovery. Unfortunately, many sampling and statistical analysis methods - some quite complex - could apply to this effort. Each requires assuming or knowing certain things about the total population of oiled materials from which representative samples are being drawn. For example, does the population follow a normal distribution? How much variance is expected? These attributes will largely be unknown and vary among spills. As a result, it is not practical to provide a “cookbook” approach to collecting and analyzing sample data for oil recovery. In fact, it is difficult to even prescribe acceptable margins of error. Therefore, the below guidelines simply set forth some basic sampling and analysis principles designed to control sampling error and avoid highly complex statistical analyses which would require extensive review. The responsible party must determine which sampling methods, sample sizes, and data analysis methods are most appropriate and provide written justification for those decisions. If a spill presents unusual or complex sampling issues, the responsible party is encouraged to seek approval of a sampling and analysis plan from Ecology staff before beginning to collect data.

## Sampling

- Sample sets should be unbiased and representative of the total population. For example, sampling should be random without replacement and represent materials recovered during the entire first 24 hours of the spill event. The responsible party shall document in writing how they determined that the sample sets are unbiased representations of the total population.
- Sample sets should only be composed of like materials. For example, sorbent pad data should be collected and analyzed separately from sorbent boom data.

Two sample sets should be collected for each type of oiled material. The responsible party should determine the most appropriate test for determining sample size and justify that test in writing (e.g., citation of an equation from an acknowledged authority). At a minimum, the sample size for each set should be equal and large enough to be 80% certain (i.e., power  $[1-\beta] = 0.80$ ) of detecting no greater than a 5% difference between the two sample means at the 5% level of significance (i.e.,  $\alpha = 0.05$ ). Most general statistics textbooks include equations for estimating required sample sizes, many using an iterative process and involving an estimation of expected variance. If an equation requires estimation of an expected variance or coefficient of variation, the estimate should be appropriate for the oil type, recovery material, and environmental conditions involved.

## Analysis

- The total number of units in the population being sampled should be counted (an estimate may be acceptable under certain conditions if justified in writing).
- Once a sufficient sample size has been achieved, a mean volume of primary or secondary recovery liquids per unit of oiled material (e.g., # of gallons per sorbent pad) should be calculated for each sample set. The average of the two mean volumes should then be multiplied by the total number of units in the population in order to extrapolate the total recovery volume.
- Analysis of sampling data should result in an exact recovery volume as well as a range of volumes based on standard deviations from the mean.



## Washington Oil Spill Compensation Schedule Credit for Oil Recovery

# Recovered Oil Data Form

From Ecology's Spill Prevention, Preparedness, and Response Program

Spill Date: \_\_\_\_\_ Spill Source: \_\_\_\_\_

Total gallons spilled (current estimate) \_\_\_\_\_ Oil Type (one per page): \_\_\_\_\_

Where was recovered oil stored<sup>3</sup>:

Total gallons oil & water recovered from water:

Total gallons of water separated from recovered mixture:

Total gallons of oil recovered:

Where was recovered oil stored<sup>3</sup>:

**Volumetric:** Total gallons oil & water collected:

Total gallons of water separated from recovered mixture:

Total gallons of oil collected<sup>4</sup>:

**Gravimetric:** Total weight of oiled materials:

Total weight of pre-oiled materials, water, and debris:

Total weight of recovered oil:

Density of recovered oil:

Total gallons of oil collected<sup>4</sup>:

**Total Recovered Oil (Gallons)**

### Skimmer & Vacuum Truck Recovery

Primary Recovery  
Liquids<sup>1</sup>

Secondary Recovery  
Liquids<sup>2</sup>

### Sorbents & Other Oiled Materials

Primary Recovery  
Liquids<sup>1</sup>

Secondary Recovery  
Liquids<sup>2</sup>

<sup>1</sup> Oil and oil-water mixes recovered from the water inside the primary containment boom, and within 1,000 feet of either the spill source or the point where oil first spills into state waters, within 24 hours of the time oil first enters state waters.

<sup>2</sup> Any other oil and oil-water mixes recovered from the water within 24 hours of the time oil first enters state waters.

<sup>3</sup> If not stored in empty container, record types/quantity of existing container contents (attach pages as needed).

<sup>4</sup> If calculated using samples and statistical analysis, attach documentation.

Preparer's Name: \_\_\_\_\_ Organization: \_\_\_\_\_

I attest that the above information is accurate to my best knowledge: \_\_\_\_\_  
(signature)

I accept the above information: \_\_\_\_\_  
(signature of state OSC) (date)

If you require this document in alternative format, please contact the Spills Program at (360) 407-7455 (Voice) or (TTY) at 711 or 1-800-833-6388.